

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

Group Art Unit: Unknown

GERALD L. SIELAGOSKI et al

Examiner: Unknown

Serial No.: Filed Herewith

Filed: Herewith

For: METHOD AND SYSTEM FOR CONTROLLING VEHICLE
DECELERATION IN AN ADAPTIVE SPEED CONTROL
SYSTEM BASED ON VEHICLE SPEED

Attorney Docket No.: FMCV 0194 PUS

PRELIMINARY AMENDMENT

Box PATENT APPLICATION
Commissioner for Patents
United States Patent and Trademark Office
Washington, D.C. 20231

Sir:

Please preliminarily amend the above-identified application as follows:

In The Claims

Please cancel claims 2, 5, 10 and 13 without prejudice.

Please replace claims 3-4, 6, 7, 11, 12, 14 and 15 as shown below. A marked up version of the amended claims is attached to this Preliminary Amendment.

3. (Amended) The method of claim 1 wherein setting the maximum allowed vehicle deceleration comprises decreasing the maximum allowed vehicle deceleration as the vehicle speed increases.

4. (Amended) The method of claim 1 wherein setting the maximum allowed vehicle deceleration comprises increasing the maximum allowed vehicle deceleration as the vehicle speed decreases.

6. (Amended) The method of claim 1 wherein the maximum allowed vehicle deceleration varies in a range between about 0.2 g and 0.3 g.

7. (Amended) The method of claim 1 wherein the maximum allowed vehicle deceleration is an exponential function of the vehicle speed.

11. (amended) The system of claim 9 wherein, to set the maximum allowed vehicle deceleration, the controller is operative to decrease the maximum allowed vehicle deceleration as the vehicle speed increases.

12. (amended) The system of claim 9 wherein, to set the maximum allowed vehicle deceleration, the controller is operative to increase the maximum allowed vehicle deceleration as the vehicle speed decreases.

14. (Amended) The system of claim 9 wherein the maximum allowed vehicle deceleration varies in a range between about 0.2 g and 0.3 g.

15. (amended) The system of claim 9 wherein the maximum allowed vehicle deceleration is an exponential function of the vehicle speed.

Remarks

The present application is a continuation of co-pending application U.S.S.N. 09/867,824 filed May 30, 2001 ("the parent application"). Claims 1-16 as filed in this application are the same claims 1-16 originally filed in the parent application. By a Preliminary Amendment filed in the parent application, the Applicants canceled claims 2 and 10 without prejudice.

By this Preliminary Amendment, the Applicants have canceled claims 2, 5, 10 and 13 without prejudice. As a result, claims 1, 3, 4, 6-9, 11, 12 and 14-16 are now pending.

In the Office Action mailed September 10, 2001 in the parent application, the Examiner rejected claim 1 under 35 U.S.C. § 102(b) as anticipated by U.S.P.N. 5,835,878 to Saito et al. ("the Saito '878 patent). The Examiner also rejected claims 1 and 9 under 35 U.S.C. § 103(a) as unpatentable over U.S.P.N. 6,178,370 to Zierolf ("the Zierolf '370 patent"). The Examiner also objected to claims 1, 3-9 and 11-16 under the judicially created doctrine of obviousness-type double patenting in light of U.S. Patent No. 6,212,465 and co-pending U.S. Patent Application No. 09/470,365.

In response, the Applicants filed Terminal Disclaimers to obviate the Examiner's obviousness-type double patenting rejections. The Applicants also canceled claims 5 and 13 without prejudice, and amended claims 1 and 9 to include all of the limitations thereof, thereby placing the parent application in condition for allowance.

The present application has been filed to continue prosecution of original claims 1 and 9. For the reasons set forth below, Applicants respectfully traverse the Examiner's rejections of claims 1 and 9 in the parent application under 35 U.S.C. §§ 102(b) and 103(a).

Rejection of Claim 1
Under 35 U.S.C. § 102(b)

As set forth above, in the September 10, 2001 Office Action in the parent application, the Examiner rejected claim 1 under 35 U.S.C. § 102(b) as anticipated by the Saito '878 patent. The Applicants respectfully believe, however, that claim 1 is not anticipated by that reference.

More particularly, in prior art adaptive speed control systems and methods, the maximum allowed vehicle deceleration is constant. Thus, at higher vehicle speeds, deceleration of an adaptive speed control equipped vehicle to maintain a selected following interval may be perceived as uncomfortable by the vehicle operator. Conversely, at lower vehicle speeds, deceleration of an adaptive speed control equipped vehicle to maintain a selected following interval may be perceived as insufficient by the vehicle operator. As recited in claim 1, the Applicants' invention is directed to a method for controlling vehicle

deceleration in an adaptive speed control system, including determining a speed of the vehicle, and setting a maximum allowed vehicle deceleration based on the vehicle speed determined. By setting the maximum allowed vehicle deceleration based on the vehicle speed, the Applicants' claimed invention provides an adaptive speed control equipped vehicle with a more comfortable response for the vehicle operator.

In contrast, the Saito '878 patent is not directed to adaptive vehicle speed control. Instead, as noted in the its Title, the Saito '878 patent is directed to an ordinary vehicle speed control system. As stated in its Abstract, to eliminate any substantial steady-state vehicle speed deviation, the Saito '878 patent determines a target vehicle acceleration in order to bring the vehicle speed into coincidence with a target vehicle speed set by the vehicle operator. Contrary to the Examiner's contention, then, the Saito '878 patent does not teach determining vehicle speed, and setting a maximum allowed vehicle deceleration in an adaptive speed control system based on vehicle speed.

As a result, the Applicants believe that claim 1 is not anticipated by the Saito '878 patent. Reconsideration of the Examiner's rejection thereof under 35 U.S.C. § 102(b) is therefore respectfully requested.

Claims 3, 4 and 6-8 depend either directly or indirectly from independent claim 1, and include all the limitations thereof. As a result, and for the reasons set forth above, the Applicants believe that claims 3, 4 and 6-8 are in condition for allowance, and such action by the Examiner is respectfully requested.

Rejection of Claims 1 and 9
Under 35 U.S.C. § 103(a)

As also set forth above, in the March 21, 2001 Office Action in the parent application, the Examiner also rejected claims 1 and 9 under 35 U.S.C. § 103(a) as unpatentable over the Zierolf '370 patent. The Applicants respectfully believe, however, that claims 1 and 9 are not rendered obvious by that reference.

As previously noted, the Applicants' claimed invention is directed to a method and system for controlling vehicle deceleration in a adaptive speed control system. As recited in claim 1, the method includes determining a speed of the vehicle, and setting a maximum allowed vehicle deceleration based on the vehicle speed determined. As recited in claim 9, the system includes a receiver capable of receiving an input signal indicative of a speed of the vehicle, and a controller capable of setting a maximum allowed vehicle deceleration based on the vehicle speed.

In contrast, the Zierolf '370 patent is not directed to vehicle speed control, adaptive or otherwise. Instead, as noted in the its Title, the Zierolf '370 patent is directed to a deceleration based antiskid brake controller with an adaptive deceleration threshold. Contrary to the Examiner's contention, then, the Zierolf '370 patent does not teach determining vehicle speed, or setting a maximum allowed vehicle deceleration based on vehicle speed. Instead, as stated in its Abstract, the Zierolf '370 patent measures a wheel speed, differentiates that wheel speed to determine a wheel deceleration, compares that wheel deceleration to a threshold value, and controls brake pressure to adjust that wheel deceleration based on that comparison.

As a result, the Applicants believe that claims 1 and 9 are not rendered obvious by the Zierolf '370 patent. Reconsideration of the Examiner's rejection thereof under 35 U.S.C. § 103(a) is therefore respectfully requested.

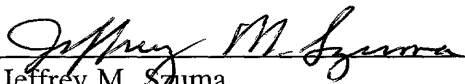
Claims 3, 4, 6-8, 11, 12 and 14-16 depend either directly or indirectly from independent claims 1 and 9, respectively, and include all the limitations thereof. As a result, and for the reasons set forth above, the Applicants believe that claims 3, 4, 6-8, 11, 12 and 14-16 are in condition for allowance, and such action by the Examiner is respectfully requested.

CONCLUSION

For the reasons set forth above, the Applicants believe that claims 1, 3, 4, 6-9, 11, 12 and 14-16 meet both the formal and substantive requirements for patentability, and that the application is in proper condition for allowance. Accordingly, such action by the Examiner is respectfully requested.

If a telephone conference would expedite allowance or resolve any additional questions, such a call is invited at the Examiner's convenience.

Respectfully submitted,
GERALD L. SIELAGOSKI et al

By 
Jeffrey M. Szuma
Reg. No. 35,700
Attorney/Agent for Applicant

Date: November 26, 2001

BROOKS & KUSHMAN P.C.
1000 Town Center, 22nd Floor
Southfield, MI 48075
Phone: 248-358-4400
Fax: 248-358-3351

Attachment

VERSION WITH MARKINGS TO SHOW CHANGES MADE**In The Claims**

3. (amended) The method of claim [2] 1 wherein [adjusting] setting the maximum allowed vehicle deceleration comprises decreasing the maximum allowed vehicle deceleration as the vehicle speed increases.

4. (amended) The method of claim [2] 1 wherein [adjusting] setting the maximum allowed vehicle deceleration comprises increasing the maximum allowed vehicle deceleration as the vehicle speed decreases.

6. (Amended) The method of claim [5] 1 wherein the maximum allowed vehicle deceleration [is capable of varying] varies in a range between about 0.2 g and 0.3 g.

7. (amended) The method of claim [2] 1 wherein the maximum allowed vehicle deceleration is an exponential function of the vehicle speed.

11. (amended) The system of claim [10] 9 wherein, to [adjust] set the maximum allowed vehicle deceleration, the controller is [capable of decreasing] operative to decrease the maximum allowed vehicle deceleration as the vehicle speed increases.

12. (amended) The system of claim [10] 9 wherein, to [adjust] set the maximum allowed vehicle deceleration, the controller is [capable of increasing] operative to increase the maximum allowed vehicle deceleration as the vehicle speed decreases.

14. (Amended) The system of claim [13] 9 wherein the maximum allowed vehicle deceleration [is capable of varying] varies in a range between about 0.2 g and 0.3 g.

15. (amended) The system of claim [10] 9 wherein the maximum allowed vehicle deceleration is an exponential function of the vehicle speed.